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IN THE UNITED STATES PATENT & TRADEMARK OFFICE

Applicant : James P. O'Reilly ) Group Art Unit : 1302

Serial No. : 08/412,037 ) Examiner : C. Sherrer

Filed : March 28, 1995 )

For : BEVERAGE STABILISATION

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FEBRUARY 27, 1997

Assistant Commissioner for Patents  
Washington, D.C. 20231

Sir:

BRIEF ON APPEAL

This is an appeal from the August 14, 1996 Office Action rejecting Claims 4 through 12 inclusive and from the Advisory Action dated December 4, 1996. A timely Notice of Appeal was filed on December 10, 1996.

Please charge the fee of \$300 for filing this Appeal Brief and the fee of \$110 to cover a one month extension of time to file this Brief and any additional fees or credit any overpayment to Deposit Account No. 07-0650.

REAL PARTY IN INTEREST

The real party in interest is ISP Investments Inc. to whom this application has been assigned.

RELATED APPEALS AND INTERFERENCES

There are no related appeals or interferences.

STATUS OF CLAIMS

Claims 4 through 12 inclusive are pending in the application and are appealed. Originals claims 1-3 were cancelled, claims 10-12 were added by amendment and the dependency of claims 4-9 was changed by amendment.

STATUS OF AMENDMENTS

An Amendment After Final Rejection was filed on November 25, 1996. This amendment was not entered.

THE CITED ART

<u>U.S. PATENT NO.</u>	<u>INVENTOR</u>	<u>DATE</u>	<u>CLASS/SUBCLASS</u>
4,910,182	Hums et al	3/1990	502/402
2,947,633	Perry et al	8/1960	426/442
4,166,141	Westermann et al	8/1979	426/422

OTHER REFERENCES

CANADIAN PATENT 1,178,222 Chi et al 11/1984

H. Broderick, Ed., The Practical Brewer, MBAA, Madison, WI, 1977,  
p. 235.

SUMMARY OF THE INVENTION

The invention is directed to treatment of a beverage such as beer by first contacting the beverage with polyvinyl polypyrrolidone (PVPP) and then centrifuging the main flow (18) of the beverage containing the PVPP to concentrate the removed PVPP in a second flow (22) which is then filtered (34, 36) to remove PVPP. The collected PVPP is regenerated and recycled in a conventional manner (118).

ISSUES

1. Whether claims 6-10 are unpatentable under 35 USC 102(b) as being anticipated by Westermann et al.
2. Whether claims 4, 5 and 11 are unpatentable under 35 USC 103 as being unpatentable over Westermann et al.
3. Whether claim 12 is unpatentable under 35 USC 103 as being unpatentable over Westermann et al. in view of Perry et al.

GROUPING OF CLAIMS

The rejected claims 6-10 stand or fall together.

THE ARGUMENT

In applicant's claimed process a mixture of PVPP and beer is first centrifuged to remove PVPP from a main stream of clarified beer. The concentrated slurry of PVPP removed from the main stream by the centrifuge is then passed through filters for removal and regeneration of PVPP in a conventional manner. The

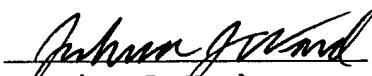
initial centrifuging of the PVPP/beer mixture removes the vast bulk of the PVPP from the main stream of beer (well over 95% as exemplified at page 4, line 2 of the specification). If subsequent filtration of the main stream to remove the remaining small amount of PVPP is desired, the problems of filtration of high solid content from a high flow rate liquid stream that were present in the prior art will not occur.

While Westermann et al. share applicant's desire to have an initial separation of beer from PVPP which does not involve filtration, Westermann et al. does this by a completely different means. In the Westermann et al. patent the initial separation is alleged to occur in a fluidized bed in which the bed of PVPP is fluidized by the flow of beer. Assuming that this process would be commercially feasible (which is doubtful considering the fact that both beer and PVPP have specific gravities very close to 1.0), the main stream of beer leaving the vessel 1 of Westermann et al. would be through line 5 and not through line 6 as apparently assumed by the Examiner. The stream exiting from vessel 1 through line 6 of Westermann et al. is a side stream used to remove a portion of the mixture of PVPP and beer from the fluidized bed so that PVPP can be regenerated. This stream is the equivalent of applicants stream 22. Not surprisingly the recovery and regeneration of PVPP from the side stream 6 of Westermann et al. can be carried out using either filters or centrifuges since at that point there is not the problem of high flow volume which is involved in treating a main stream of beer.

The only suggestion of centrifuging in the Westermann et al. patent is in the treatment of a concentrated slurry of PVPP and beer for recovery and regeneration of PVPP and not in the treatment of the main stream of beer for the removal of PVPP. The essence of applicant's invention is thus neither shown or suggested by the Westermann et al. patent.

In view of the above argument it is respectfully requested that the decision of the Examiner be reversed and claims 6-12 be allowed.

Respectfully submitted,

  
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APPENDIX

TheAppealed Claims

4. A method according to claim 10 carried out using a plurality of filters, regeneration of polyvinyl polypyrrolidone collected by one filter taking place simultaneously with collection at another filter of polyvinyl polypyrrolidone removed by centrifugation.

5. A method according to claim 10 wherein the amount of polyvinyl polypyrrolidone is between 10 and 100 grams per hectolitre of beverage.

6. A method according to claim 10 wherein at least 90% by weight of the polyvinyl polypyrrolidone has a particle size of at least 10  $\mu\text{m}$ .

7. A method according to claim 10 wherein at least 90% by weight of the polyvinyl polypyrrolidone has a particle size of at least 20  $\mu\text{m}$ .

8. A method according to claim 10 wherein at least 97% by weight of the polyvinyl polypyrrolidone has a particle size of at least 10  $\mu\text{m}$ .

9. A method according to claim 10 wherein the beverage is beer, and the treatment thereof with polyvinyl polypyrrolidone is effective to enhance stability of the beer.

10. A method of treating a beverage which comprises:

- (i) contacting the beverage with polyvinyl polypyrrolidone,
- (ii) subsequently centrifuging the beverage to remove the polyvinyl polypyrrolidone from a main flow of the beverage, and concentrate the removed polyvinyl polypyrrolidone in a second flow,
- (iii) delivering said second flow containing the polyvinyl polypyrrolidone, which has been removed by centrifuging, to a filter, collecting polyvinyl polypyrrolidone from said second flow at the filter, periodically regenerating the collected polyvinyl polypyrrolidone by contact with alkali and then washing and recycling the regenerated polyvinyl polypyrrolidone.

11. A method according to claim 10 which further comprises filtering said main flow of the beverage subsequent to centrifuging.

12. A method according to claim 9 wherein said beverage is previously-filtered, bright beer.

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